

REMARKS

The Office Action dated March 17, 2005, has been received and reviewed.

Claims 1-22 are currently pending and under consideration in the above-referenced application. Each of claims 1-22 stands rejected.

Reconsideration of the above-referenced application is respectfully requested.

Rejections Under 35 U.S.C. § 102

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single reference which qualifies as prior art under 35 U.S.C. § 102. *Verdegaal Brothers v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). The identical invention must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Golshan

Claim 18 stands rejected under 35 U.S.C. § 102(b) for reciting subject matter which is purportedly anticipated by that described in U.S. Patent 5,384,488 to Golshan et al. (hereinafter “Golshan”).

Claim 18 is amended to recite, in pertinent part, “a plurality of contact pads located adjacent to [a] single edge or two adjacent peripheral edges of the base substrate” and conductive traces that extend from conductive vias toward the single edge or the two adjacent peripheral edges. Golshan neither expressly nor inherently describes a rerouting element with a plurality of contact pads that are located adjacent to another, *single* peripheral edge than the peripheral edge next to which the conductive vias are positioned or adjacent to two *adjacent* peripheral edges, as required by amended independent claim 18. Instead, the description of Golshan is limited to rerouting elements with contact pads that are positioned adjacent to two *opposite* edges thereof.

Accordingly, it is respectfully submitted that, under 35 U.S.C. § 102(b), amended independent claim 18 recites subject matter which is allowable over that described in Golshan.

Akram

Claims 18, 21, and 22 stand rejected under 35 U.S.C. § 102(b) for reciting subject matter which is allegedly anticipated by the subject matter described in U.S. Patent 6,072,236 to Akram et al. (hereinafter “Akram”).

Claim 18 is amended to recite, in pertinent part, “a plurality of conductive vias positioned adjacent at least three peripheral edges of the base substrate.” Akram neither expressly nor inherently describes a rerouting element with a plurality of conductive vias positioned adjacent at least three peripheral edges. Instead, the disclosure of Akram is limited to rerouting elements with vias at only two, opposite edges thereof.

It is, therefore, respectfully submitted that, under 35 U.S.C. § 102(b), amended independent claim 18 recites subject matter which is allowable over that described in Akram.

Claims 20 and 21 are both allowable, among other reasons, for depending directly or indirectly from claim 18, which is allowable.

Claim 21 is further allowable since Akram does not expressly or inherently describe a rerouting element with conductive vias that are located next to two *adjacent* peripheral edges of thereof.

For these reasons, withdrawal of the 35 U.S.C. § 102(b) rejections of claims 18, 20, and 21 is respectfully solicited.

Rejections Under 35 U.S.C. § 103(a)

Claims 1-17, 19, and 20 have been rejected under 35 U.S.C. § 103(a).

The standard for establishing and maintaining a rejection under 35 U.S.C. § 103(a) is set forth in M.P.E.P. § 706.02(j), which provides:

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim

limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Haba in View of Akram

Claims 1-17 are rejected under 35 U.S.C. § 103(a) for being drawn to subject matter that is assertedly unpatentable over the subject matter taught in U.S. Patent 6,376,904 to Haba et al. (hereinafter "Haba"), in view of teachings from Akram.

It is respectfully submitted that there are at least two reasons that a *prima facie* case of obviousness has not been established against any of claims 1-17.

First, Haba and Akram do not, together or separately, teach or suggest each and every element of any of claims 1-17. Claim 1 is amended to recite, in pertinent part, "a plurality of conductive vias positioned adjacent at least three peripheral edges of the base substrate." As the Office has already acknowledged that "Haba fails to teach the first semiconductor device with a plurality of peripheral located bond pads and a rerouting element with vias located over the peripherally located bond pads and rerouting these bond pads to at least one other peripheral edge of the rerouting element." Office Action of March 17, 2005, pg. 5. Thus, Haba fails to teach or suggest a rerouting element with conductive vias positioned adjacent to at least three peripheral edges thereof. Akram likewise fails to teach or suggest a rerouting element with conductive vias that are positioned adjacent to at least three peripheral edges thereof. Instead, the teachings and suggestions of Akram are limited to rerouting element with conductive vias positioned adjacent to two *opposite* peripheral edges. See, e.g., Figs. 1, 2, 3, 6. Therefore, Haba and Akram do not teach or suggest each and every element of amended independent claim 1, as would be required to establish a *prima facie* case of obviousness against amended independent claim 1.

Claims 2-17 are each allowable, among other reasons, for depending directly or indirectly from claim 1, which is allowable.

Second, it is respectfully submitted that, without improperly relying upon the hindsight provided by the disclosure of the above-referenced application, one of ordinary skill in the art would not have been motivated to combine the teachings of Haba and Akram in the manner that

has been asserted. This is because the teachings of Haba are limited to rerouting elements that may electrically connect to one another, when devices are stacked, by bond wires or tape-automated bond (TAB) type conductive elements, whereas Akram, particularly Figs. 6, 7, and 8 thereof, are limited to rerouting elements for use in Discrete Die Connect (DDC), or “flip-chip,” type electrical connects, which Akram merely teaches may be used to assemble two components. *See also*, col. 6, line 39. More specifically, Fig. 10 and the accompanying text of Akram teaches that face-to-face die or wafer stacking may be achieved using solder or conductive epoxy connections. Thus, the reference teachings are limited to use of different types of electrical connections, as well as different types of assemblies. As such, the teachings of Haba and Akram cannot be relied upon to establish a *prima facie* case of obviousness.

Golshan

Claim 19 stands rejected under 35 U.S.C. § 103(a) for reciting subject matter which is allegedly unpatentable over the teachings of Golshan.

Claim 19 is allowable, among other reasons, for depending directly from claim 18.

Golshan in View of Akram

Claim 19 (presumably claim 20) stands rejected under 35 U.S.C. § 103(a) for being directed to subject matter that is purportedly unpatentable over that taught in Golshan, in view of teachings from Akram.

Claim 20 is allowable, among other reasons, for depending from claims 19 and 18, which are allowable.

Claim 20 is further allowable since one of ordinary skill in the art would not have been motivated, without improperly relying upon the hindsight provided by the above-referenced application, to combine teachings from Golshan and Akram in the manner that has been asserted. In particular, Golshan teaches a rerouting element with rerouted contacts that are configured to be connected (e.g., by laterally extending bond wires) to corresponding terminals of a carrier substrate, while the teachings of Akram are limited to rerouting elements with contacts that are

configured to be secured, in flip-chip fashion (*e.g.*, with direct solder or epoxy connections) to corresponding terminals.

Akram

Claims 19 and 20 stand rejected under 35 U.S.C. § 103(a) for reciting subject matter which is assertedly unpatentable over that taught in Akram.

Claims 19 and 20 are allowable, among other reasons, for respectively depending directly and indirectly from claim 18, which is allowable.

Withdrawal of the 35 U.S.C. § 103(a) rejections of claims 1-17, 19, and 20 is respectfully requested.

CONCLUSION

It is respectfully submitted that each of claims 1-22 is allowable. An early notice of the allowability of each of these claims is respectfully solicited, as is an indication that the above-referenced application has been passed for issuance. If any issues preventing allowance of the above-referenced application remain which might be resolved by way of a telephone conference, the Office is kindly invited to contact the undersigned attorney.

Respectfully submitted,



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